

**A NEW SUBSPECIES OF *CICINDELA POLITULA*
FROM NEW MEXICO AND A RANGE EXTENSION
FOR *CICINDELA POLITULA BARBARAANNAE*
(COLEOPTERA: CICINDELIDAE)¹**

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ABSTRACT: Extensive collecting throughout New Mexico has extended the range of *Cicindela politula* with the discovery of a new subspecies. This subspecies is described from 36 specimens. During this comprehensive study the known range for *C. p. barbaraannae* was extended into two additional mountain ranges in western Texas.

Cicindela politula LeConte and its known subspecies were reviewed by Sumlin (1985) and the new subspecies, *C. p. petrophila* was described from the Guadalupe Mountains of Texas and New Mexico. During surveys conducted in 1984 and 1986 for the United States Department of the Interior throughout western Texas and New Mexico to determine the exact range of this subspecies, I discovered a population which proved to be another distinct subspecies of *C. politula*.

***Cicindela politula viridimonticola* n. spp.**
(Fig. 1)

Head: Vertex predominantly bright green (75% of the population), occasionally blue-green (19%) or cupreous (6%); and usually with fine purple or violet wrinkles between the eyes. Frons usually green (94%), occasionally blue (6%) with purple or violet stripes anterior to the eyes and extending to the clypeus. Many individuals exhibit a narrow metallic gold band vertically dividing the frons. Vertex and frons glabrous except for supraorbital sensory setae. Genae and clypeus glabrous. Clypeus green and/or violet, occasionally with purple or blue-green reflections. Labrum with a single row of subapical setae (4-7 setae, average 5.75). Labrum of female with prominent single tooth, males without this tooth. Genae violet or occasionally blue-green. Antennal scape green with cupreous or violet reflections and bearing a single subapical seta.

Thorax: Pronotum glabrous medially and laterally, finely wrinkled, predominantly green (69%), occasionally blue-green (25%), or rarely cupreous (6%); pronotal sulci predominantly purple (76%), blue (12%), or green (12%); proepisternum sparsely setose along ventral margin, usually bicolored; most frequent combinations include green and blue-green or yellow; green and purple, cupreous, or black; mesepisternum predominantly purple (56%), although blue-green (25%), blue (13%), and green (6%) occasionally occur; metepisternum green with an occasional blue or cupreous reflection; Procoxa, mesocoxa, lateral edges of metacoxa, proepimeron, mesepimeron, and metepisternum with setae; prosternum, mesepisternum, mesosternum and central metasternum glabrous.

Abdomen: Lateral edges of venter usually with a sparse covering of decumbent setae. Posterior two abdominal segments and lateral margins of visible segments red-testaceous. Remainder of ventral segments red-brown.

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Elytra: Male, nearly parallel-sided although slightly wider from basal third to apical third and evenly rounded to apex. Female slightly wider from basal third to apical third and evenly rounded to apex. Both male and female equipped with small sutural spines, microserrate apical margins and shallow to obscure punctae. Maculation consists of a complete marginal line with no breaks from the humerus to the apical suture in 20 (55.5%) of the individuals collected. The marginal line is broken once above the apical lunule on 10 (27.8%) specimens. This separation is sometimes so narrow it cannot be seen without some magnification. These two maculation types are referred to as a complete or fully developed marginal line. Together they represent 83.3% of the sample. On the 6 remaining individuals (16.7% of the sample), the marginal line is separated into three or four segments. Maculation white; elytral color of live specimens a brilliant grass-green in 91.6% of the individuals. Cupreous-green and greenish-purple elytra each make up 2.7 and 5.5% respectively. After being cleaned in ether, a few specimens darkened from bright green to greenish-purple or blue.

Type locality: New Mexico: Eddy County, 129.16 kilometers south of Artesia, above 2192.8 meters elevation.

Holotype: Male, Eddy Co. New Mexico, 13 August 1983, Ed V. Gage, collector. Deposited in the Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, Florida.

Allotype: Female. Same data as holotype. Specimen remains in the author's collection.

Paratypes: 7 males, 7 females, same data as holotype; 9 males, 11 females (including Figure 1), same data as holotype except 6 August 1983. Paratype distribution: one paratype to the National Museum of Natural History, Washington, D.C.; one paratype each to W.D. Sumlin, III, D.L. Pearson, and W. Johnson; the remaining paratypes are in the author's collection.

Etymology: Derived from the Greek for "green, mountain dweller" which characterizes this subspecies.

Common name: Green, mountain tiger beetle.

Diagnosis: The new subspecies differs from all other known subspecies by its striking color difference. This is the only predominantly pure green subspecies of *C. politula* with a continuous marginal line or with a slight break located above the apical lunule. Nominate *C. politula* is completely black with a small apical lunule while the subspecies *C.p. laetipennis* is predominantly purple or purple-blue with the marginal line broken into several sections. Subspecies *C.p. petrophila* is predominantly blue-green, green, or blue, with a few cupreous-green or cupreous individuals. The largest percentage of known *C.p. petrophila* specimens are without maculation. Subspecies *C.p. barbaraannae* is bright red-brown with a complete, unbroken marginal line.

Remarks: Subspecies *C.p. viridimonticola* is very rare at the type locality. To collect the type series and to study the behavior and habitat of this subspecies, I spent approximately a week in the field over a three year period. Extensive observations were made in the field to determine the exact size of the population, which is estimated to occupy about 0.5 acre of native habitat.

Due to the limited amount of habitat in which this subspecies occurs

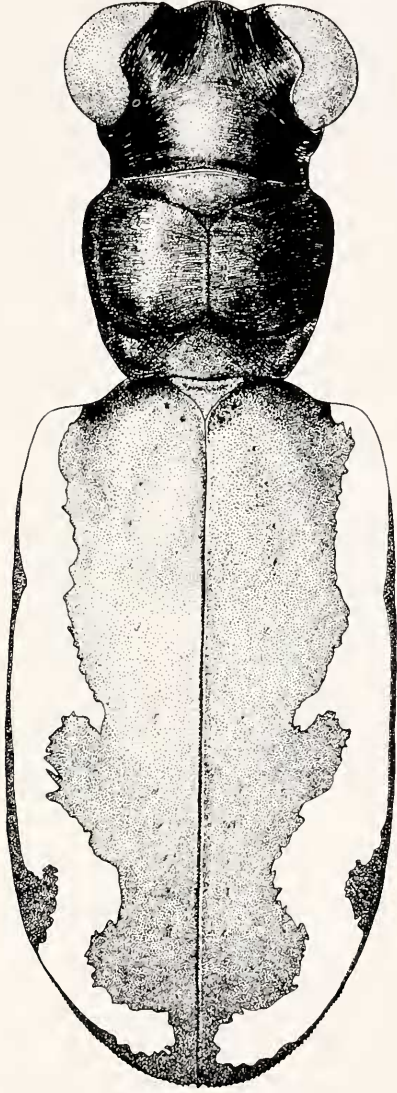


Fig. 1. *Cicindela politula viridimonticola*, n. ssp.

and its small population size, it must be considered a population highly susceptible to extinction and over-collecting is without a doubt a major danger. In order to facilitate the survival of the only known population of *C.p. viridimonticola*, its location is given in very general terms.

Further biological studies are presently being conducted to determine the precise habitat parameters of each of the subspecies of *C. politula* and to describe the larvae.

A key to separate this subspecies from other *C. politula* subspecies which are listed in Boyd (1982) has been developed as follows:

Key to Subspecies of *Cicindela politula* LeConte

- 1a. Color of elytra black *politula* LeConte
- 1b. Color of elytra not black 2
- 2a. Color of elytra red or brownish-red with fully developed marginal white line; known from several localities throughout West Texas and southern New Mexico.
..... *barbaraannae* Sumlin
- 2b. Color and maculation not as above 3
- 3a. Color of elytra bright green or bluish-green with a continuous marginal white line or with one break above the apical lunule in the majority of the individuals; few individuals with partial maculation. Known only from southeastern New Mexico ...
viridimonticola n. ssp.
- 3b. Color of elytra purplish with partial or no maculation; or blue, blue-green, cupreous, cupreous-green, green or greenish-black and predominantly without maculation ... 4
- 4a. Color of elytra predominatly purple or purplish-blue; occasionally blue-green; predominantly partially maculated with an occasional non-maculated individual. Known only from southern Coahuila, Mexico
..... *laetipennis* W. Horn.
- 4b. Color of elytra predominantly blue or blue-green; occasionally cupreous green, cupreous, greenish-black or green; maculation predominantly absent although occasional specimens may have partial or complete marginal line. Known only from the Guadalupe Mountains in western Texas and southeastern New Mexico
..... *petrophila* Sumlin

Range Extension of *Cicindela politula barbaraannae*

During the course of my study on *C. politula viridimonticola*, I increased the known range of *C.p. barbaraannae* Sumlin. Subspecies *barbaraannae* was previously known only from the type locality (18.6 miles east of El Paso, Texas) in the Hueco mountains. Two additional populations were discovered which best fit the description of subspecies *barbaraannae* and a close examination of the specimens confirm this conclusion. One population occurs in the Sierra Diablo mountains, 80 miles to the east of the type locality. The habitat in this area is very different from the Hueco mountains. The Sierra Diablo mountains receive more precipitation than the Hueco mountains as evidenced by the vegetation.

There are no trees at the type locality, while in the Diablos there are dense stands of pinon pine (*Pinus cembroides*), pinchot juniper (*Juniperus pinchotii*), and several species of oak (*Quercus* spp.).

The Apache mountains represent the known eastern boundary for subspecies *barbaraannae* (120 miles east of the type locality). These mountains are very similar to the Huecos; both mountain ranges being more arid than the Diablos.

Both the Diablo and Apache Mountains have extensive limestone outcrops (like the ledges at the type locality) on which the populations occur.

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LITERATURE CITED

- Boyd, H.P., and Associates. 1982. Checklist of Cicindelidae. The Tiger Beetles. Plexus Publishing, Marlton, NJ. 31 p.
- Gage, E.V. 1984. *Cicindela politula petrophila* Sumlin, Its Status in the Guadalupe Mountains of Texas and New Mexico. Research Report to USDI, National Park Service. 14 pp.
- _____. 1986. Status of *Cicindela politula barbaraannae* Sumlin and *Cicindela politula petrophila* Sumlin with additional notes on the status of other subspecies in the limestone tiger beetle complex of the United States and Mexico. Research Report to USDI, Fish and Wildlife Service, Endangered Species Office. 58 pp.
- Sumlin, W.D. 1985. A Review of *Cicindela politula* LeConte (Coleoptera: Cicindelidae). J. Kans. Ent. Soc. 58(2): 220-227.